TRANSACTIONS

OF THE

PHILADELPHIA ACADEMY OF SURGERY.

Stated Meeting, February 4, 1907.

The President, DR. JOHN B. ROBERTS, in the Chair.

ENDOTHELIOMA OF THE PALATE.

DR. JOHN H. GIBBON presented a man, aged 26 years, who was admitted to the Pennsylvania Hospital on January 4, 1907. He stated that he first noticed a swelling on the left side of the roof of the mouth five years previous. This has gradually increased until there was a large tense apparently fluctuating mass extending over about one-half the hard palate and all of the soft palate on the left side. The entire tonsil and left side of the pharyngeal wall was hid by the growth, which extended down nearly to the base of the tongue. It interfered with the patient's eating, and when ether was given him interfered very greatly with his taking the anæsthetic. The mass appeared to be cystic. At one or two points there was a suspicious hard area. Because of the duration of the growth, however, and its apparently cystic character it was not thought to be malignant. The blood vessels over it stood out very clearly. There was no obstruction of the nares and no apparent involvement of the pharynx, as the finger could be passed easily behind the growth. After the patient was anæsthetized the tongue had to be drawn forward and pressed down with a tongue depressor in order that he could breathe. He was placed in the Rose position and an incision made over the prominent part of the growth. A quantity of material immediately escaped from the mass, which seemed to be undoubtedly sarcomatous. Practically all of the growth was shelled out with the finger. The hard palate was rough, as if its periosteum had been destroyed. Neither the hard nor the soft palate were perforated by the growth. Bleeding at this time was very profuse but was controlled by gauze packing and digital pressure. The case seemed a perfectly hopeless one and a prompt and rapid recurrence was expected. The pathologist also on inspection of the material-removed thought it was sarcomatous, but on later thorough examination pronounced it to be an endothelioma. This diagnosis has been fully borne out by the subsequent course of the case. The packing was gradually removed, and although a small cavity still exists most of the induration has disappeared and the patient is entirely comfortable.

Dr. Gibbon is not sure that he removed all of the growth, but upon the slightest evidence of a recurrence he is prepared to again operate and freely remove it. He thinks that an endothelioma in this situation is rather rare. The most frequent site of such growth is the parotid gland. Many of the early cases reported of cure by excision of sarcoma of the parotid were undoubtedly cases of endothelioma.

Dr. J. T. Rugh said that some years ago a boy of 18, from Delaware, came to the Jefferson Hospital with a growth in the posterior nares of the right side. It appeared to be fibrous and was removed by means of a wire snare, removal being followed by almost fatal hæmorrhage. The growth recurred and was then diagnosed sarcoma. A second operation, however, resulted in complete cure. No pathologic report on the tumor was obtained, but as it did not recur a second time it was regarded as an endothelioma.

Dr. John B. Roberts described a case of endothelioma of the left nares, which was partially scooped out, and the patient then treated by the X-rays and by the injection of the toxins of erysipelas and prodigiosus. The tumor seemed to be lessened by this treatment. The patient later went to another Philadelphia hospital and was operated upon, it was stated after the principle of Dawbarn, attempts being made to plug the carotid and its branches with paraffin. Dr. Roberts had heard indirectly that the man died later of secondary hæmorrhage.

Dr. W. M. L. Coplin said that a few years ago he had the opportunity of presenting to the Association of American Pathologists a paper on endothelioma in which he collated all the cases that had been carefully studied—approximately 150. The great mass of these tumors involve the serosæ, particularly the meninges and pleuræ. Several observers have found similar tumors in the ovary, and a number of papers contain reports of endothelioma of the parotid, this being the basis of most of the so-called mixed tumors of that gland. The paper by Kelly is one of the best English productions on this subject; Borst, in his classic work on tumors, has made an exhaustive study of these tumors. They are interesting to the pathologist because of their histogenesis and peculiar position as to malignancy. In this respect they bear the same relation to other tumors of the sarcoma group as does the flat-celled cancer to the more malignant epithelial neoplasms. They extend along the lymph channels usually without the detachment and transportation of cells seen in the more malignant tumors. During the routine examination of tumors at the Jefferson laboratories some unusual specimens have been see. Among these are endotheliomata involving the fissural regions of the face. It is probable that many tumors regarded as originating in the antrum or other sinuses are really endotheliomata of the fissures of this region. A few endotheliomata of the mammary gland have also been observed, the diagnosis being confirmed by the subsequent relative benignancy after complete excision. Endothelioma of bone is less frequent than it is in other tissues. Here the tumor bears a striking resemblance to cancer, especially the flat-celled type, but the structure and location indicate the origin from endothelial elements. Vörstmann suggested the classification into hemangio- and lymphangio-endothelioma, but we find groups of cases not properly classified as either—for example, those originating in serosæ, commonly the pleura or meninges, less frequently the peritoneum. The histogenic study of these tumors arising in the ovary, indicate their origin from the endothelial investment of the marginal genetic layers or connective tissue stroma of the organ.

RESECTION OF ILEOCÆCAL COIL FOR TUBERCULOSIS.

Dr. John H. Gibbon presented a negro, aged 40 years, upon whom he had operated in September, 1905, for tuberculosis of the ileum and mesenteric glands, resecting a portion of the ileum and cæcum. Two subsequent intestinal anastomoses were done.

The patient was admitted to the Pennsylvania Hospital in September, 1905. He stated that he had lost weight and had suffered from abdominal pain and indigestion for about seven months.

The pain complained of was a general pain in the lower half of the abdomen which seemed from the description to be peristaltic. He was watched carefully for two weeks, a test meal being given and the stomach contents carefully examined. He vomited once or twice during this period, but was able to take full diet without much difficulty. His abdomen was always scaphoid and somewhat rigid. On two occasions a distinct movable mass could be felt in the right iliac region. This was thought to be an enlarged mesenteric gland. There was no fever at any time, and no blood or mucus was passed in the bowel movements. Rectal examination showed some tenderness behind the bladder. No tuberculous lesion of the lung could be discovered. After observing the patient for some time it was finally concluded that he must have some tubercular intraperitoneal lesion, and it was thought that an exploratory operation was justifiable.

The abdomen was opened through the right rectus, and the ileum near its distal extremity was at once encountered. It showed two marked constrictions with a dilated portion of bowel between them, containing a large number of small bodies which felt not unlike gall-stones. These proved subsequently to be watermelon seeds. The patient stated afterwards that he had not eaten a watermelon for over a year. Numerous tubercles were found over the constricted portion of the ileum, and there was a mass of large mesenteric glands behind the ileocæcal juncture. Some of these were as large as hickory nuts. Small tubercles were found in other portions of the peritoneal coat of the bowel. There was no evidence of any tuberculous lesion elsewhere, and there was but a small amount of fluid in the cavity. The bowel was excised from a point some distance proximal to the first stricture to a point above the cæcum. This portion of bowel was removed with its mesentery containing a large number of glands. Other individual glands were then removed. Certainly all the diseased bowel, and apparently all of the involved glands were removed. The open ends of the bowel were then inverted and a lateral anastomosis made between the ileum and the ascending colon. Catgut and celluloid thread were used in making the anastomosis. A gauze drain was inserted down to the inverted ends of the bowel, but not to the point of anastomosis. The operation was a very long one, occupying two hours; this was partly due to the fact that after dividing the ileum and inverting the end it was found that in order to remove all the enlarged glands a higher division of the bowel would be required. The patient made a very satisfactory recovery after his operation, but on the fourth day he had considerable pain and vomited. Chloride of ethyl was administered, the gauze drain was removed, and there was an escape of considerable gas and some liquid fæcal matter. There was no other interference with convalescence but the fæcal fistula did not close, although the discharge grew much less.

The patient was readmitted to the hospital on January 14, 1906, complaining of painful peristalsis and with the fæcal fistula still open, although discharging but a small amount of fæcal matter. The peristalic movement of the bowel could be distinctly observed through the abdominal wall, the bowel becoming greatly distended in the right iliac region near the wound. With the idea of removing whatever caused the obstruction to the small intestine, and of closing the fæcal fistula, the abdomen was opened on the outer side of the old scar. The adhesions were very extensive and it was discovered that the fistula opened probably at the point of anastomosis. The proximal portion of the ileum was enormously distended and hypertrophied. This extended up the ileum for probably two or three feet; the colon was quite collapsed. As the intesines were so matted together it was thought wise to make a new anastomosis between the ileum and the transverse colon. This was done without cutting off the ileum at the site of the previous anastomosis. The fistulous opening into the bowel was closed with sutures, but a drain introduced down to this point. The new anastomosis was surrounded by omentum and the abdomen closed, excepting at the point of drainage. The patient made a good recovery from this operation but the fæcal fistula continued to discharge.

He was operated upon again in March, 1906, by Dr. Le Conte, and an attempt made to close the fistula. This was not, however, successful, and a few months later the discharge was greater than it had ever been, although there was no longer any painful peristalsis.

The patient was again seen by Dr. Gibbon in December, 1906. He had gained 18 pounds and was able to do light work. He was greatly troubled, however, with the discharge of fæcal matter, and he was again admitted to the hospital. On January 11, 1907, Dr. Gibbon opened the abdomen through the left rectus, with the idea of dividing the ileum at the point of anastomosis to the transverse colon and anastomosing it with the sigmoid. The abdominal cavity was found in good condition excepting for numerous small tubercles over the bowel and mesentery; there was no fluid and there were no enlarged glands. The last anastomosis was in good condition and apparently working satisfactorily. There was no distention of the bowel. The ileum was divided near the anastomosis, the two ends inverted, and the proximal one anastomosed laterally to the upper portion of the sigmoid. The abdomen was closed without drainage and without any attempt being made to close the fistula on the opposite side.

Since this operation the patient has progressed very satisfactorily. At first there was a free discharge of fæcal matter from the old fistula, but this stopped after a few days. The fistula was Y-shaped, having two external openings, and one of these closed over firmly after the operation, but the other is still discharging a small amount of mucus and pus. The patient's temperature is normal and he is able to move about and is quite comfortable.

The specimen removed at the original operation was exhibited. It is 38 cm. long, 34 cm. of ileum and 4 cm. of cæcum., The mesentery is attached to the intestine and contains a number of enlarged glands. There are two constrictions, one of 5 cm. from the ileocæcal juncture and the other 13 cm. above this one. The bowel between the two constrictions is very much distended and thickened; in this distended portion between the strictures there was found, when the specimen was examined, two or three ounces of watermelon seeds with one grape seed. The peritoneal covering of the bowel and mesentery is studded with small tubercles and numerous hard bodies can be felt in the intestinal wall. The mesentery is very thick and contains a number of large glands, the largest measuring 4 x 3.5 x 2 cm. These glands on section proved to be caseous. The appendix is tightly bound down to the cæcum by adhesions. The lower stricture is 3 cm. in length and the lumen of the bowel at this point .5 cm. The second stricture is 1 cm. in length and the lumen of the bowel 1.5 cm. The pathological diagnosis was tuberculosis of the intestine with chronic ulceration; tuberculosis of the mesenteric glands; and hypertrophy of the muscular wall of the intestine.

Dr. Gibbon stated that this case and another in which he had resected the colon from the hepatic flexure to the middle of the sigmoid and made a successful end-to-end anastomosis for tuberculosis, caused him to feel that patients afflicted with tuberculosis of the intestine stood extensive operation well, and that there was a chance for even the most apparently hopeless of these cases. The second case referred to was operated upon March 5, 1905, and is perfectly well at the present time. In this case an end-to-end anastomosis was made and a fæcal fistula persisted for some weeks, but finally closed. It is thought that a lateral anastomosis is better in resections of the large intestine than the end-to-end.

HÆMOPHILIC KNEE-JOINT; OPERATION; CONTROL OF HÆMORRHAGE BY USE OF THRYOID EXTRACT.

Dr. J. T. Rugh, by invitation, reported this case and presented the patient. For description and remarks upon this case, see page 666.

Dr. William J. Taylor said Dr. Rugh's results in this case confirmed his observations regarding the control of hæmorrhage, though he has had no experience with joints. The use of thyroid extract diminishes the coagulation time of the blood, though as yet we do not understand its action. In these cases two conditions must be considered: first, the coagulation time of the blood; second, the condition of the tissues. Dr. Sajous advances the theory that the pituitary body governs the adrenals and that coagulability is kept up by the thyroid stimulating the pituitary. This has a practical value when the coagulation time is lengthened, as in some cases of jaundice. In a number of the latter the time is not lengthened, hence thyroid extract will in them have no value. Murphy and Gould in a study of fifteen cases of jaundice from all causes—cancer, obstruction, etc.—did not find in one a change in the coagulation time. In one case of obstructive jaundice from malignant disease, under the care of Dr. Harte, the coagulation time was lengthened. Wiel has used for this condition injections of beef soup, practically bouillon, into the veins with good results. Dr. Taylor is confident regarding the value of thyroid extract when the coagulation time is lengthened. In one case its administration for a few days brought the time down from thirteen minutes to two minutes and six seconds. The individual making the test must be taken into account, as methods for determining the coagulation time are not well worked out. There are sources of error in Wright's instrument. In another appliance the blood is kept in motion by a current of air. A practical method is to place a drop of blood on a slide and determine by position of the latter when coagulation has occurred. The personal equation is great and all the tests should be made by one man. The subject is one that should be investigated more carefully. Dr. Taylor now uses thyroid extract whenever bleeding is a probability. He has employed it in operations upon the kidney, bone, for the extraction of teeth and in the case of removing glands of the neck from a boy whose grandfather was a terrific bleeder. In the last case the coagulation time was lowered from eight to three minutes in forty-eight hours and the operation site was perfectly dry.

Dr. W. M. L. Coplin said we know something of the basis of thyroid therapy in cases of hæmophilia. Women escape the affection, hence we look for organs in the female which possibly by an internal secretion combat any tendency to this diathesis. For such organotherapy ovarian extract has been suggested and in some cases has been of value. Hyperthyroidism is more common in the female, the relation between the thyroid metabolism and the general economy being more intimate in this sex. This is shown by the changes in the gland during menstruation and gestation; its relation to myxœdema and exophthalmic goitre is well known. If we are correct in the assumption that activity of the thyroid and parathyroid glands enable the female to escape hæmophilia, the basis of employing thyroid extract to counteract the manifestations of the disease becomes plain. Dr. Taylor referred to the exact cause of hæmophilia. Of the two theories, Dr. Coplin's inclination is toward the histogenous, the hæmatogenous not appealing to him as possessing a sound basis. There is no specific relation between coagulation time of the blood and hæmophilia, the relation being the same as in any anæmia. This diminished coagulability was shown at autopsy upon a case of pernicious anæmia in which the blood clotted in a basin some time after it had been removed from the body, yet there is no necessary relation betwen secondary anæmia and bleeding. Loeb's studies concerning the relation between tissue juices and the blood indicate that in coagulation there is necessary a certain element which is supplied by the tissues. He suggested as the source of this element the endothelium of the capillaries. Such element is not supplied when metabolism is deficient, and on this basis may be explained the occurrence of periods when hæmophiliacs are not hæmophiliacs,—that is, when they do not bleed excessively. Wright's studies on the calcium content of the blood show that the explanation based upon its lowered quantity applies in some cases; in others the calcium is entirely within the normal limits, and therefore this cannot be the cause of the condition.

Dr. Rugh's case is an instance of the cryptogenic or latent type of hæmophilia. These cases are well known, there being at least the gastric, intestinal, biliary, arthritic, and renal types; possibly there is a meningeal form. In the renal type the kidney may show no microscopic lesion though hæmorrhage had been severe. It is also to be remembered that paranephric hæmorrhage may follow trifling injuries. König, Broca, and also Poillet, have studied particularly the joint manifestations of hæmophilia, Poillet analyzing 252 cases. In about 50 per cent. of cases the knee is involved and in 25 per cent. the elbow. In none of Poillet's cases was the operative result so good as in Dr. Rugh's case. None was diagnosed before operation. The findings in these joints were well described by Dr. Rugh. Chondroid erosion is marked, in some instances this process extending even into the marrow. Spongy articular cartilages are produced in some cases. Lipping of the articular cartilages at their margins is more marked in operative cases and may become so prominent as to lead to fixation of the joint. This is due to chondroplastic proliferation of the marginal genetic layers of the cartilages, hyperplasia of the serosa not being anatomically important in the locking. These joint lesions are not the result of primary changes in the bone. There has been reported an instance of hæmophilia with separation of the epiphysis due to hæmorrhage between the epiphysis and shaft, with resulting formation of a flail joint. Dr. Rugh's case illustrates the muscular wasting which often accompanies the joint lesion. This remains unexplained, as it is not a question of fixation as in tuberculosis. Sometimes even the tendons wither. This wasting suggests in a way the exploded theory of the neurogenous origin of hæmophilia. A practical point regarding these cases is the almost certain recrudescence of the hæmophiliac lesion. The age of Dr. Rugh's patient is against this, as the great majority of cases occur in boys of from four to six. A diagnostic point in hæmophiliac hæmarthrosis is para-articular hæmorrhage. This is sometimes shown as a faint hazy bluing of the sulcus on each side of the patella. At times distinct hæmorrhage is present. This ought to constitute an important diagnostic feature.

PLASTIC RECONSTRUCTION OF THE EYE-BROW AND UPPER EYE-LID FROM THE TISSUES OF THE SCALP.

Dr. John B. Roberts reported this case with presentation of the patent. The child had a large arteriovenous angioma of the forehead and upper eye-lid, which he treated successfully by strangulation, excision, injection of boiling water and other methods. Its removal left the eye-ball exposed and a corneal ulcer developed. A pedunculated flap from the scalp was brought down to make the upper lid. Subsequently this was split horizontally and the hairy part transferred to the superciliary region to make the eye-brow. Later a portion of this soft hair will be shaved to cause it to become coarser, and probably some of the superfluous hair will be removed by the electric needle.

EXCISION OF BRANCHIAL FISTULA.

Dr. James W. MacIntosh presented a boy of twelve years. A small opening in the skin at the lower and inner border of the right sternomastoid muscle was noticed when the boy was two weeks old. This had remained open and discharged mucus except for a period of one and one-half years some time between the age of two and five. From the location of the opening and the fact that it was congenital a diagnosis of branchial fistula was made. Through the fistula a solution of quassia could be injected into the mouth, proof that the fistula was complete. A silkworm gut suture was at first inserted and finally a small lachrymal probe was passed. This enabled dissection and removal of the entire tube. The inner end was pulled down and a chromacized catgut ligature applied. Before it was tightened the ligature was carried to the pharyngeal wall by means of two pairs of curved hæmostats and a second knot then made. The stump was then twisted four times and allowed to retract. The lower end of the external wound is not yet healed because of the eczematous condition of the skin caused by the discharge from the fistula.

Dr. John H. Gibbon remarked on the difficulty with which these fistulæ are excised. He never before saw one removed so entirely as was the specimen shown. Only time will tell if the cure is permanent. Surgeons often feel that the fistula has been completely removed and yet it reforms. If a slight amount of the mucous lining be left, recurrence will follow.

DR. W. W. KEEN regards the use of quassia as an ingenious plan well worthy of repetition in future cases of such fistulæ. He agrees with previous speakers as to the difficulty of excising the fistulous tract in its entirety. Branchial fistulæ are rare, the similar condition of the thyroglossal duct being more common. The latter he has almost never succeeded in curing by one operation.

INTRALOBULAR ABSCESS OF LUNG.

DR. CHARLES F. NASSAU presented a man, aged thirty-eight years, who was first seen by him, with Dr. M. T. Prendergast, October 7, 1906. He had then been ill for ten weeks. The patient was dreadfully emaciated, extremely weak, with a rapid pulse, in the neighborhood of 120 per minute. He had very little cough and that was of a hard brassy character. There was constant pain at the base of the right lung. Puncture of the chest made in the mid-axillary line in the fifth interspace and in three different directions revealed no fluid of any kind.

October 19, 1906, he was seen again in consultation with Dr. Prendergast and Dr. Alfred Stengel at St. Joseph's Hospital. A preliminary puncture through the fourth interspace gave vent to abundant pus. About 3 inches of the fourth rib was then excised and through the adherent layers of the pleura an intralobular abscess of the upper lobe of the lung was broken into, evacuating somewhat less than a pint of pus. Light general anæsthesia by ethyl chloride, the patient almost dying on the table.

Following this operation the wound did very well, the walls of the abscess collapsed rapidly and the temperature fell immediately to normal. The patient was discharged from the hospital on November 13, 1906. The wound at this time was entirely superficial. The patient continued to do well for one week at his home, when he had a chill followed by high fever, sweating and general prostration. On November 23, 1906, after a second consultation with Dr. Prendergast and Dr. Stengel, it was determined that he probably had an empyema below the site of the previous incision into the lung, so a second operation was done, consisting in still further excision of the rib previously operated upon, together with a wide excision of the rib below. About two pints of bad smelling bloody fluid, with here and there streaks of pus, was evacuated. In addition to the above the site of the primary operation, two encysted abscesses were encountered and evacuated. The patient's condition was so desperate that in order to give some support to the violent and wide excursions of the partially collapsed lung, a large quantity, about 7 square yards, of gauze was rapidly packed through the wound on the side of the chest. The patient's pulse at this stage was scarcely perceptible, his pupils were widely dilated, lips were purple, respirations could not be counted, his hands, feet and nose were cold. However, sufficient hypodermatic injections of camphorated oil began to bring about reaction. At the end of twenty-four hours one could say that they hoped he would recover.

From this time on convalescence was uninterrupted, although after the removal of the gauze packing introduced at the time of operation one could almost thrust one's whole hand into the patient's pleural cavity. Now the wound has entirely healed except a small granulating area in the skin, hardly an inch in length and less than a quarter of an inch in width. The lung has descended almost to its normal level and the breath sounds on the right side of the chest are quite normal.

RUPTURE OF KIDNEY AND LIVER.

Dr. Charles F. Nassau reported the following case: A man was admitted to the Frankford Hospital, October 27, 1906. with a history of having been kicked in the right side along the lower margin of the ribs by a horse. When first admitted he was in a state of shock, with rapid shallow respiration which was largely due to the fracture of four ribs on the right side. His temperature, which on admission was subnormal, reacted and rose rapidly. His pulse on admission, while rapid, was of good tension. There were no external marks of violence. The abdominal muscles were rigid, particularly on the right side.

The resident within an hour after his admission noted increasing power with a rapidly rising pulse rate and temperature. Respiration also became more shallow and of a slight sighing type. When seen by the reporter, about three hours after the injury, there was distinct dulness in the right flank. He passed bloody urine, and on account of his increasing weakness since admission an internal hæmorrhage due to injury of the kidney was suspected. He was immediately etherized and prepared for operation on the table.

An incision was made along the right costal margin, beginning at a point about three inches to the right of the median line and ending well out in the right loin. As the peritoneum was approached it seemed to be infiltrated with blood, in fact so disorganized as to hardly require incision. Blood welled up rapidly out of the abdominal cavity and, as the intestines upon superficial examination seemed to be uninjured, they were packed out of the way and the region of the kidney exposed. The right kidney was found torn practically entirely in half. The whole organ lay free in the abdominal cavity, the peritoneal covering over the kidney not being recognizable. The hæmorrhage was furious. As quickly as possible the renal vessels were clamped and the kidney cut away.

After ligation of the renal pedicle blood continued to ooze from the direction of the liver. Investigation discovered a tear in the liver substance on the posterior edge, extending well up towards the vault of the diaphragm. This was firmly packed and the abdominal wound was then closed except for a point of generous gauze drainage. The man was put back to bed apparently very little worse off for the operative procedure.

During the first 24 hours he passed 15 ounces of urine. Day by day the kidney secretion increased, the urine being quite normal, until on the fourth day he passed 36 ounces of urine. On the fourth day his temperature shot up, he developed an annoying cough and examination of the right lung disclosed a wide spread pneumonia. He died in about three days after the development of the lung condition.

This man at no time had any symptoms that would lead one to suspect a peritonitis; his bowels moved naturally and postmortem the peritoneal cavity was found well sealed off and appeared to be quite free from any evidence of inflammation.

STAB WOUNDS OF THE HEART.

Dr. Richard H. Harte read a paper with the above title for which see page 672.

Dr. John H. Gibbon said the fact that Dr. Harte's patient lived twenty-three days is an instance of what can be done in wounds of the auricle. Heretofore it has been thought by many that a wound of the auricle was necessarily fatal. This case is only another to show that a patient may recover from a stab wound of the auricle. Infection occurred here and proved fatal, as happens in many cases of heart wound.

Dr. John B. Roberts mentioned a case, which he previously had reported to the College of Physicians, of a suicidal wound of the heart, in which that organ was not perforated. He had not sutured the wound, but had been able to examine with his fingers the exposed heart. The patient died in twelve or fourteen days from infection, there being pleurisy on the left side and pneumonia of the opposite lung.

SEVERE BURN ON TOP OF HEAD AT SEVEN MONTHS OF AGE FOLLOWED BY NECROSIS OF ENTIRE OSSEOUS CAP OF CRANIUM.

Dr. Keen read a paper with the above title, for which see page 641.